

INTERNATIONAL PHASE SUBMISSION

2

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Currently Amended) A Method for determining the actuator energy required for the different injection types of an actuator of an internal combustion engine, the method comprising the steps of:

applying a control signal being applied to the actuator such that said control signal generates an actuator signal  $(S_1, S_2)$ ; and

setting an injection parameter of the internal combustion engine being set such that said actuator signal is generated at a specific stored time  $(t_1, t_2)$ , characterized in that wherein the a first injection type in a the combustion cycle is deactivated in order to determine the an actuator energy of said type from a the second injection type.

2. (Currently Amended) A method according to Claim 1, ~~characterized in that~~ wherein the first injection type is reactivated in order to determine ~~the an~~ actuator energy required for the second injection type.

3. (Currently Amended) A Method according to Claim 2, ~~characterized in that~~ wherein a the last injection type is an advance injection and the second injection type is a main injection.

4. (Currently Amended) A Method according to Claim 1, wherein at least one ~~of the above claims, characterized in that~~ the internal combustion engine is in a stationary operating state.

5. (Currently Amended) A Method according to Claim 1, wherein at least one ~~of the above claims, characterized in that the an~~ injection pressure of the injectors is changed after each control process.

INTERNATIONAL PHASE SUBMISSION

3

6. (Currently Amended) A Method according to Claim 1, wherein at least one of the above claims, characterized in that the main injection is changed in order to generate the actuator signal.

7. (Currently Amended) A Method according to Claim 1, wherein at least one of the above claims, characterized in that the control signal is applied to one injector at the a first point in time ( $t_3$ ), and in that the actuator signal ( $S_4$ ) is generated at the a second point in time ( $t_4$ ) after a specific time ( $t_4, t_3$ ).

8. (Currently Amended) A Method according to Claim 1, wherein at least one of the above claims, characterized in that, in an internal combustion engine with several injectors, the difference in the two points in time ( $t_3, t_4$ ) of one injector is the same as the respective difference between the two points in time of another injector.

9. (Currently Amended) A Method according to Claim 1, wherein at least one of the above claims, characterized in that at least one of the following variables is selected as an injection parameter: loading time of the control signal, amplitude of the control signal, control duration and actuator energy.

10. (NEW)A system for determining the actuator energy required for different injection types of an actuator of an internal combustion engine, comprising:

means for applying a control signal to the actuator such that said control signal generates an actuator signal; and

means for setting an injection parameter of the internal combustion engine such that said actuator signal is generated at a specific stored time, wherein a first injection type in a combustion cycle is deactivated in order to determine an actuator energy of said type from a second injection type.

INTERNATIONAL PHASE SUBMISSION

4

11. (NEW)A system according to Claim 10, wherein the first injection type is reactivated in order to determine an actuator energy required for the second injection type.

12. (NEW)A system according to Claim 11, wherein a last injection type is an advance injection and the second injection type is a main injection.

13. (NEW)A system according to Claim 10, wherein the internal combustion engine is in a stationary operating state.

14. (NEW)A system according to Claim 10, wherein an injection pressure of the injectors is changed after each control process.

15. (NEW)A system according to Claim 10, wherein the main injection is changed in order to generate the actuator signal.

16. (NEW)A system according to Claim 10, wherein the control signal is applied to one injector at a first point in time, and the actuator signal is generated at a second point in time after a specific time.

17. (NEW)A system according to Claim 10, wherein, the internal combustion engine comprises several injectors, and wherein the difference in two points in time of one injector is the same as the respective difference between two points in time of another injector.

18. (NEW)A system according to Claim 10, wherein at least one of the following variables is selected as an injection parameter: loading time of the control signal, amplitude of the control signal, control duration and actuator energy.